Reviewer's report

**Title:** Disseminated tuberculosis presenting with polymorphonuclear effusion and septic shock in an HIV-seropositive patient: a case report

**Version:** 1  **Date:** 9 November 2009

**Reviewer:** Bogdan Grigoriu

**Comments to authors:**

**Major points:**

In the end of the discussion section the authors are making a description of the types of effusions encountered in TB cases. It is unclear why these definitions need to be reminded and how this fits with the discussion of our case.

In is unclear why the authors present shortly the TB empiema. Empyema is defined by the gross appearance of fluid and not only by the presence of pleural fluid neutrophils.

Also a more thorough discussion on the fact that a neutrophilic fluid may be present in early TB pleuresia is needed.

In the end of the discussion section the authors state that ???Early pleural fluid direct examination by Ziehl-Neelsen staining, cultures and pleural biopsies are necessary to confirm the appropriate diagnosis???: this is partially true since only about 5% direct pleural fluid examination are positive for Acid Fast Bacilli and no more than one case in three are culture positive. Some may infer that examination of pleural fluid may be sufficient for exclusion of TB diagnosis. Cultures from pleural biopsies are much more frequently positive (up to 80%). Please rephrase and document with appropriate references.

The authors also state in the conclusion that early death is the illustration of the ???aggressiveness of some forms of this disease???(i.e. TB). This should be rephrased since death in TB generally relate to late or inappropriate therapy (either due to drug resistance or inappropriate treatment protocol or poor compliance). Early treatment even in severe immunosuppressed patients generally results in cure.

The authors should emphasize the need for early treatment. Also a blood marrow examination (if available would be useful to be presented because this is frequently positive both at direct examination and culture.

**Minor**

Introduction line 1-2: it is unclear today if the DOTS strategy has resulted in a huge decrease in incidence. Moreover in all developed countries the decrease in tuberculosis incidence has been observed long before implementation of the DOTS strategy. I would suggest to link the decrease of TB incidence to correct treatment of all cases and increase in welfare.
Introduction second paragraph: the statement "Because a substantial number of patients present with few or atypical symptoms" is correct only for people with immunosupression (of any kind). In general immunocompetent patients have a classical picture albeit it is not always very evident clinically. Moreover this patient has presented some symptoms as an inmate but which have been probably disregarded (which unfortunately happens frequently).

In the "Case presentation" section

Second paragraph: please number tables and figure (1 to n) even if only one is presented.

In the sentence "Blood and urine were sent for bacteriology cultures and returned negative" please state after how much time. Because in some modern blood culture systems culture for M. Tuberculosis is systematically done (especially in HIV + patients).

Please be more precise than "cardiac echography was normal except for a moderate, inhomogeneous impairment of the left ventricular ejection fraction; which segments were involved, what was the global ejection fraction etc.

Please specify how "cytomegalovirus or herpetic infections" were excluded;

The authors state that "All tissue cultures remained negative for other bacterial infection": did they culture the tissues taken at autopsy? It is generally difficult to get aseptic specimens at autopsy. Generally this is limited for blood, Cerebrospinal fluid or sometimes tissue sampled very rapidly after death.

The term "septicaemia" should be replaced by bacteraemia (when proved by positive blood culture);

It is not correct to state that only seven cases of TB related septic shock have been described in the literature; a few short series exists and probably the reported ceases are more than 100 in total.

The consent paragraph should be very much shortened.

Please be more descriptive about "pyogranulomatous" nodules. The correct term is generally that of granuloma with or without necrosis (with the description of the type of necrosis). Why the term of Pyo was employed? Does it contain polymorphonuclears??